

Claims

We claim:

1. A composition, comprising:
 - Greater than about 0.1% by weight hydrogen peroxide;
 - Aromatic acid component;
 - Surfactant;
 - Optionally, a solvent; and
 - A carrier.
2. Composition of claim 1 formulated to provide a pathogenic bacteria kill rate of 99.9% in about 90 seconds when bacteria are exposed to the composition.
3. Composition of claim 1 wherein the aromatic acid component comprises an aromatic acid and a salt of the aromatic acid.
4. Composition of claim 1 further comprising an acidulant selected from the group consisting of phosphoric acid, sulfuric acid, caprylic acid, capric acid, lauric acid, or citric acid and combinations of the foregoing.
5. Composition of claim 1 wherein the hydrogen peroxide is present in the composition at a concentration from about 0.1% to about 7% by weight.
6. Composition of claim 1 wherein the aromatic acid component is present in a concentration sufficient to provide a disinfecting action when used to kill microorganisms such as bacteria, fungi and viruses.
7. Composition of claim 1 wherein the aromatic acid component is present in a concentration sufficient to provide a synergy when combined in the composition with the hydrogen peroxide as a disinfecting composition to kill microorganisms such as bacteria, fungi and viruses.

8. Composition of claim 1 wherein the aromatic acid component is selected from the group consisting of benzoic acid, alkyl derivatives of benzoic acid, hydroxybenzoic acids, halogenated benzoic acids, phthalic acid, terephthalic acid, orthophthalic acid, acetylsalicylic acid, napthoic acid and combinations of the foregoing, the aromatic acid component present in a concentration from 0.1% by weight to 5% by weight.
9. Composition of claim 1 wherein the surfactant is anionic.
10. Composition of claim 9 wherein the surfactant is selected from the group consisting of alkyl sulfates, alkyl arylsulfates, alkyl sulfosuccinates, dialkyl sulfosuccinates, and xylene sulfonates, salts thereof and combinations of the foregoing.
11. Composition of claim 9 wherein the surfactant is the sodium salt of dioctyl sulfosuccinate.
12. Composition of claim 1 wherein the surfactant is selected from the group consisting of amine oxides, phenol ethoxylates, fatty acid amides, sorbitan esters, fatty alcohol ethoxylates, block copolymers of ethylene oxide and propylene oxide and combinations of the foregoing.
13. Composition of claim 1 wherein the solvent is selected from the group consisting of glycols, alcohols, aprotic amides, esters, polyethers and combinations of the foregoing.
14. Composition of claim 1 wherein the carrier is water and the composition is an emulsion.
15. Composition of claim 1 further comprising one or more optional constituents selected from corrosion inhibitors, antifoaming agents, foaming agents, pH adjusting agents, coloring agents, peroxide stabilizing agents, fragrances, and chelating agents.
16. Composition of claim 1 having a pH in the range from about 3.5 to about 5.0.

17. Composition of claim 1 wherein:

The concentration of hydrogen peroxide is from about 1% by weight to about 7% by weight; and

The concentration of aromatic acid component is from about 0.1% by weight to about 5% by weight.

18. Composition of claim 17 further comprising a salt of the aromatic acid in a concentration less than about 2% by weight.

19. Composition of claim 18 wherein the aromatic acid is benzoic acid and the salt is sodium benzoate.

20. Composition of claim 19 wherein the surfactant comprises salts of compounds selected from the group consisting of alkyl sulfates, alkyl arylsulfates, alkyl sulfosuccinates, dialkyl sulfosuccinates, alkyl lactates, alkyl alkoxylated sulfates, xylene sulfonates and combinations of the foregoing.

21. Composition of claim 19 wherein the surfactant is selected from the group consisting of the sodium salt of dioctyl sulfosuccinate, sodium capryl sulfate and combinations of the foregoing.

22. Composition of claim 12 further comprising an antifoaming agent.

23. Composition of claim 22 further comprising acidulant selected from the group consisting of phosphoric acid, sulfuric acid, caprylic acid, capric acid, lauric acid, citric acid and combinations of the foregoing.

24. Composition of claim 17 wherein the solvent is selected from the group consisting of propylene glycol, ethanol, n-propanol, isopropanol, hexylene glycol, polyethylene glycol, glycerol, phenoxyethanol, butylene glycol and combinations of the foregoing.

25. Composition of claim 24 wherein the solvent concentration is from about 1% to about 40% by weight.
26. Composition of claim 17 wherein the composition is more resistant to catalase deactivation than an aqueous solution of hydrogen peroxide.
27. Composition of claim 17 having a pH in the range from about 3.5 to about 5.0.
28. A method for disinfecting, the method comprising:
 - Applying the composition of claim 1 to a substrate;
 - Allowing the composition to remain in contact with the substrate for a period of time to kill microorganisms thereon; and
 - Removing the composition from the substrate.
29. Method according to claim 28 wherein the substrate is a surface on a medical instrument.
30. Method according to claim 28 wherein the medical instrument is an endoscope.
31. Method according to claim 28 wherein applying the composition of claim 1 to the substrate is accomplished by roll coating, dipping, spraying, or rotational tumbling.
32. Method according to claim 28 wherein the period of time ranges from 30 seconds to ten minutes.
33. Method according to claim 28 wherein the period of time is no longer than about two minutes and the microorganisms comprise *Mycobacterium*, the method providing a kill of 10^6 *Mycobacteria* within the period of time.

34. Method according to claim 28 wherein removing the composition from the substrate is accomplished by rinsing with water, alcohol, or aqueous alcohol solution.
35. Method according to claim 28 further comprising drying the substrate after removing the composition
36. Method according to claim 28 where the substrate is a hard surface or a textile.
37. A method for making a composition, the method comprising combining the initial components of claim 1 to provide the composition.
38. Composition according to claim 1 formulated for application to skin.